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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/784,089	02/16/2001	Jean-Jacques Born	ICB0096	3232
24203	7590	04/23/2004	EXAMINER	
GRIFFIN & SZIPL, PC SUITE PH-1 2300 NINTH STREET, SOUTH ARLINGTON, VA 22204			GOODWIN, JEANNE M	
			ART UNIT	PAPER NUMBER
			2841	

DATE MAILED: 04/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/784,089	BORN ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Jeanne-Marguerite Goodwin	2841	<i>BM</i>

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 08 January 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-10 is/are rejected.
- 7) ☐ Claim(s) 11-15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                                                                   |                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                              | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The information disclosure statement (IDS) submitted on January 8, 2004 was filed after the mailing date of the Office Action mailed on July 10, 2003. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

### ***Drawings***

2. The drawings were received on January 8, 2004. These drawings are approved.

### ***Claim Objections***

3. Claims 11-15 are objected to as being dependent upon cancel claim 3. Claims 11-15 have not been further treated on the merits.

### ***Claim Rejections - 35 USC § 103***

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1, 2 and 4-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 4,761,582 to McKee [hereinafter McKee] in view of US Patent 4,769,797 to Murakami [hereinafter Murakami].

McKee discloses a dual mode piezoelectric transducer (8) having a piezoelectric element

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(14) for operating as a signaling device and as a switch. In the signal alerting or output mode, the transducer (8) is driven by an AC signal source (48) which provides electrical energy to excite the transducer (8) into mechanical vibration. The transducer (8) is mounted in a housing (34) which includes a cavity (36) and a port (38) which function as a Helmholtz resonator.

When electrically excited, the transducer (8) is induced into mechanical vibration and generates acoustic signals having the majority of the frequency components at the resonant frequency of the cavity and port. In the switching or input mode, a resilient member, such as a snap action dome (28), is mounted above the piezoelectric element (14). An actuating means, such as a pushbutton (40), when manually operated, forces the dome from a normal position to a deflected position which contacts and mechanically deforms the piezoelectric element (14). In response to the deformation, the piezoelectric element (14) outputs a voltage which is sensed by a voltage sensing circuit (50) to activate the electronic circuitry of the paging receiver or any other numerous signaling devices such as a watch or the like. Although not clearly indicated, it is inherent that the device of McKee would include a means for displaying at least one data item considering the transducer is being incorporated in pagers, watches or the like. McKee discloses all the subject matter claimed by applicant with the exception of the limitations stated in claim 1, i.e., the particular type of case formed of a top portion including a crystal covering the display means and a bottom portion delimited by a back cover located below said display, wherein the piezoelectric transducer generates an electric voltage when mechanical pressure is exerted on said top portion and the piezoelectric transducer being arranged in the bottom portion of said case and is rigidly connected to said case; the imitation stated in claim 7, i.e., the particular type of filter, e.g., digital filter, a filter with switched capacitors or made with an active filter; the

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limitation stated in claim 8, i.e., wherein the amplification and conversion means include a circuit branch in which a transistor and a resistor are mounted in series and an inverter connected in parallel across the circuit branch; the limitation stated in claim 9, i.e., the particular type of inverter, e.g., CMOS type; and the limitation stated in claim 10, i.e., a polarization resistor.

With respect to the limitations stated in claim 1: Murakami discloses an electronic clock comprising a case (31) formed of a top portion including a crystal covering a display means and a bottom portion delimited by a back cover located below the display means, a piezoelectric element (33) generating an electric voltage when mechanical pressure is exerted on the top portion and a first timer/electronic circuit (41) arranged inside the case and starting an operation in response to an output signal of the sensor circuit, wherein the piezoelectric transducer is arranged in the bottom portion of the case and is bonded to the case. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify by replacing the push button assembly of McKee, with the case assembly, as taught by Murakami, since they are alternative types of input means which will provide the same function, if one is replaced with the other, of generating an electric voltage when mechanical pressure is exerted.

With respect to the limitation stated in claim 7: Official Notice is taken with respect to the particular type of filter, e.g., digital filter, a filter with switched capacitors or made with an active filter means, since it is very well known in the art that these particular filters are one of numerous filters used to filter acoustic pulses generated by an piezoelectric transducer. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to replace the filtering means as disclosed by Mutrux with any of the

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claimed since they are alternative types of filtering elements which will provide the same function, if one is replaced with the other, of filtering acoustic pulses generated by the transducer.

With respect to the limitation stated in claim 8: Official Notice is taken with respect to the particular type of amplification and conversion means, e.g., a circuit branch in which a transistor and a resistor are mounted in series and an inverter connected in parallel across the circuit branch, since it is very well known in the art that this type of amplification and conversion means is one of numerous amplification and conversion means used to amplify and convert an acoustic pulses generated by an piezoelectric transducer. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to replace the amplification means as disclosed by Mutrux with the claimed amplification and conversion means since both are alternative types of amplification and conversion elements which will provide the same function, if one is replaced with the other, of amplifying and converting an acoustic pulses generated by the transducer.

With respect to the limitation stated in claim 9: Official Notice is taken with respect to the particular type of inverter means, e.g., CMOS, since it is very well known in the art that this type of inverter means is one of numerous inverter means used to invert an acoustic pulses generated by an piezoelectric transducer. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to replace the inverter means as disclosed by Mutrux with the claimed inverter means since both are alternative types of inverter elements which will provide the same function, if one is replaced with the other, of inverting an acoustic pulses generated by the transducer.

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With respect to the limitation stated in claim 10: Official Notice is taken with respect to the particular type of resistor, e.g., polarization, since it is very well known in the art that this type of inverter means is one of numerous inverter means used to invert an acoustic pulses generated by an piezoelectric transducer. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to replace the inverter means as disclosed by Mutrux with the claimed inverter means since both are alternative types of inverter elements which will provide the same function, if one is replaced with the other, of inverting an acoustic pulses generated by the transducer.

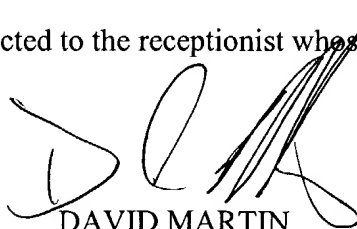
***Response to Arguments***

6. Applicant's arguments with respect to claims 1, 2 and 4-15 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

7. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Examiner Jeanne-Marguerite Goodwin whose telephone number is (571) 272-2104. The examiner can normally be reached on Monday-Friday (9am-6pm), alternate Fridays off. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2861.

JMG  
April 19, 2004



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